



# Parks and Recreation: Assessment of Parks in Toronto

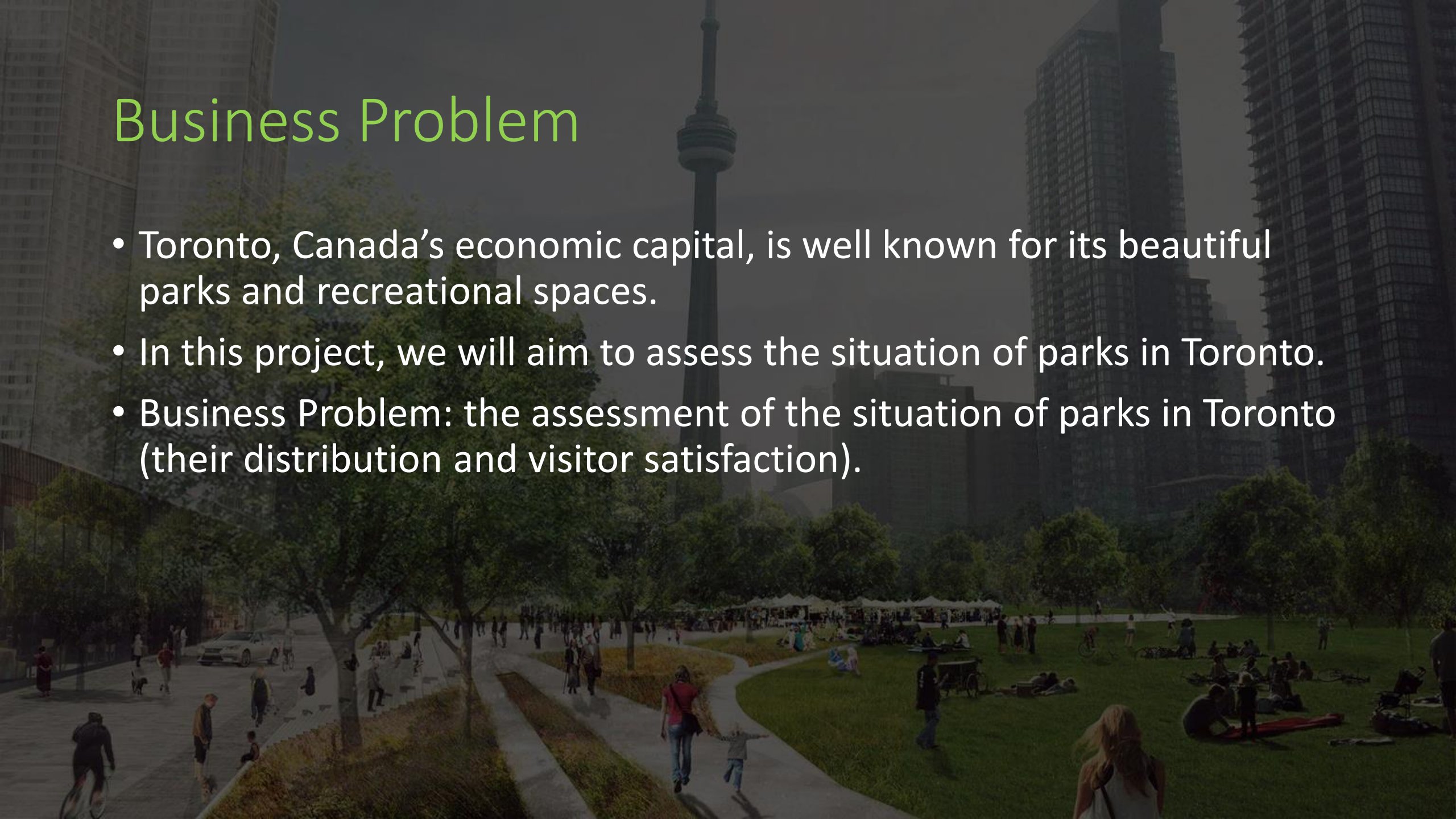
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# Business Problem

- Toronto, Canada's economic capital, is well known for its beautiful parks and recreational spaces.
- In this project, we will aim to assess the situation of parks in Toronto.
- Business Problem: the assessment of the situation of parks in Toronto (their distribution and visitor satisfaction).





# Audience

- Parks and Recreation Department of Toronto
- City Visitors
- City dwellers
- Urban planning researchers





# Data

- Toronto, its boroughs, and neighborhoods:  
[https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)
- Geospatial data: GeoPy and Geospatial\_coordinates.csv
- Venue data: Foursquare API

# Methodology

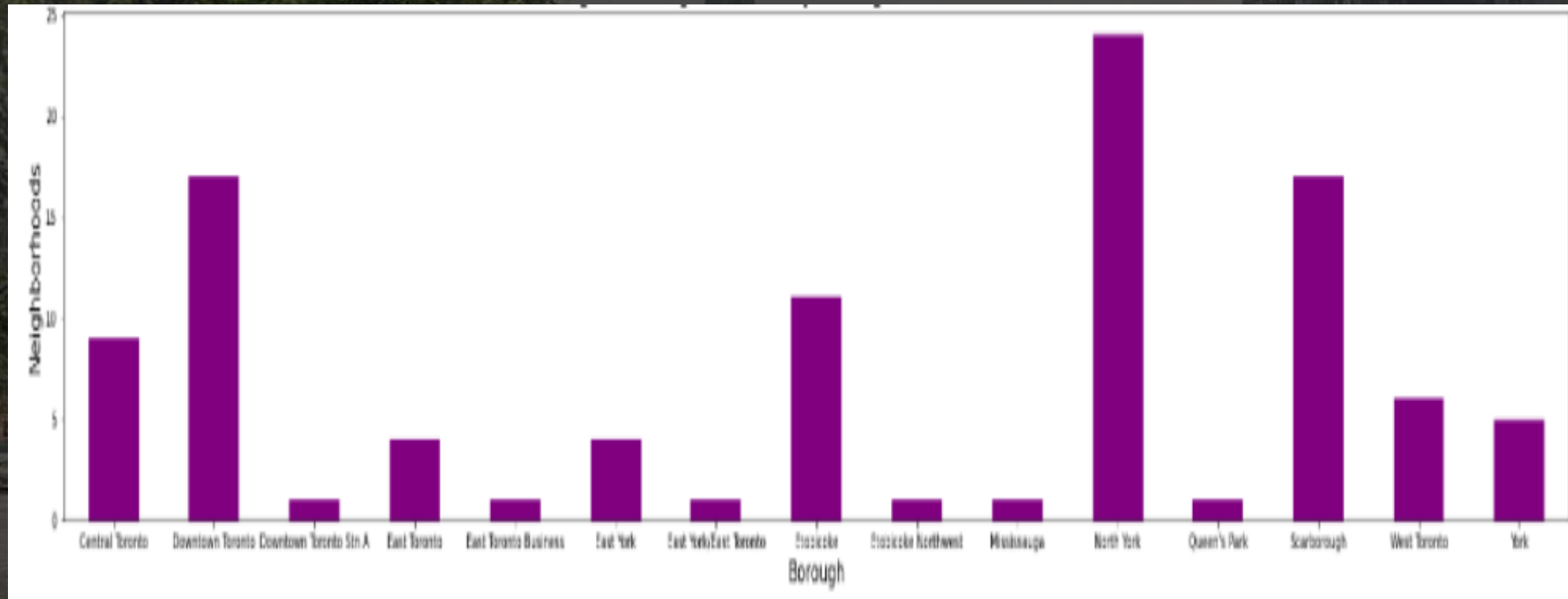
After webscraping we obtain the following results and retrieving geospatial data we obtain the following results:

	PostalCode	Borough	Neighborhood	Latitude	Longitude
0	M3A	North York	Parkwoods	43.7533	-79.3297
1	M4A	North York	Victoria Village	43.7259	-79.3156
2	M5A	Downtown Toronto	Regent Park, Harbourfront	43.6543	-79.3606
3	M6A	North York	Lawrence Manor, Lawrence Heights	43.7185	-79.4648
4	M7A	Queen's Park	Ontario Provincial Government	43.6623	-79.3895



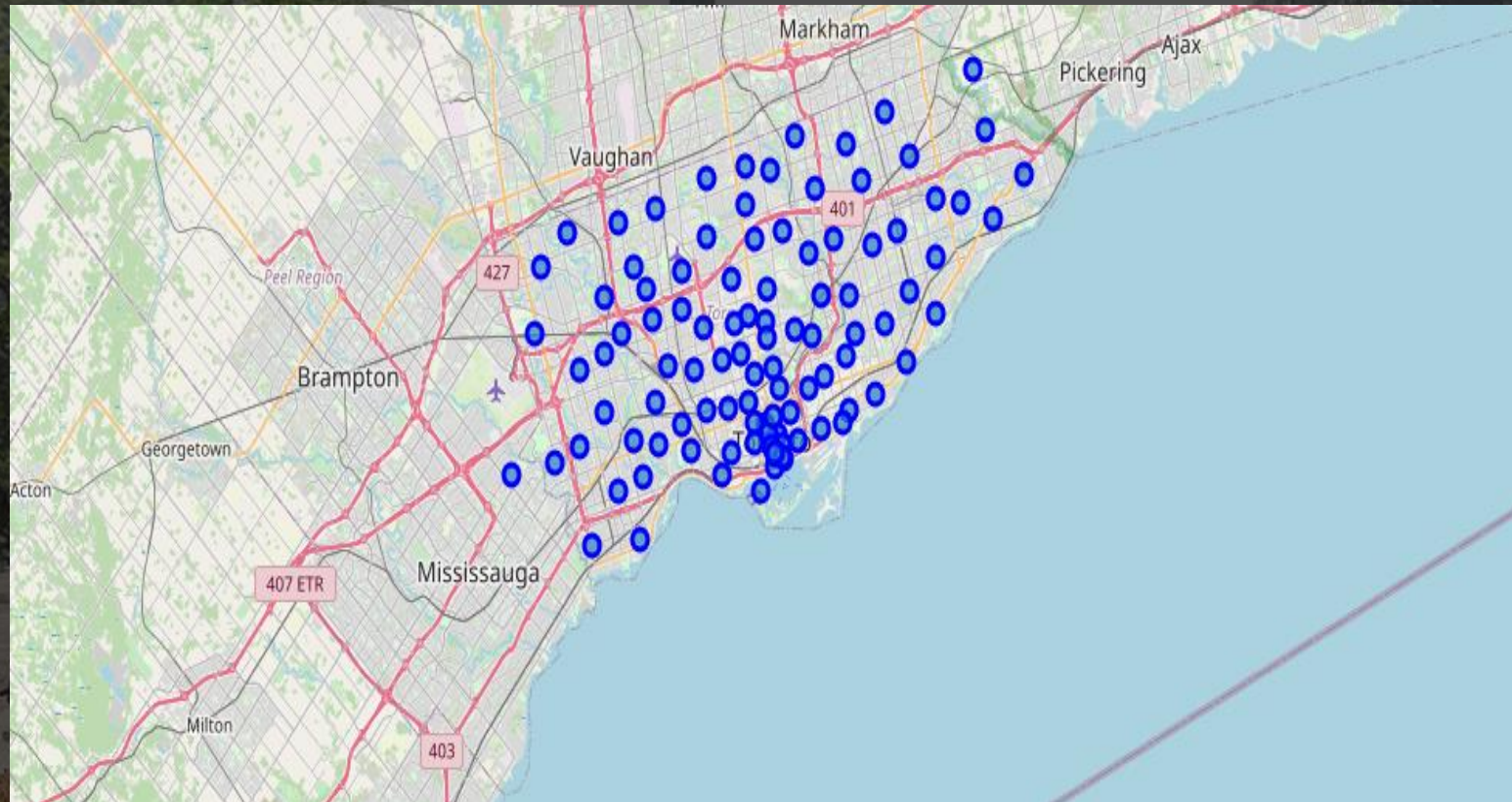
# Methodology

We can further explore how many neighborhoods there are by borough:



# Methodology

We can visualize Toronto and its neighborhoods on a Folium map:





# Methodology

After obtaining information about venues in Toronto, we zero in on parks. Following is a snippet of the list of parks in Toronto:

	Borough	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue ID	Venue Latitude	Venue Longitude	Venue Category
0	North York	Parkwoods	43.753259	-79.329656	Brookbanks Park	4e8d9dcdd5fbbbb6b3003c7b	43.751976	-79.332140	Park
12	Downtown Toronto	Regent Park, Harbourfront	43.654260	-79.360636	Corktown Common	51ccc048498ec7792efc955e	43.655618	-79.356211	Park
25	Downtown Toronto	Regent Park, Harbourfront	43.654260	-79.360636	Underpass Park	4ddfbaca185035f3a44e8df6	43.655764	-79.354806	Park
36	Downtown Toronto	Regent Park, Harbourfront	43.654260	-79.360636	Parliament Square Park	4c16a548955976b0cadea4f6	43.650264	-79.362195	Park
63	Queen's Park	Ontario Provincial Government	43.662301	-79.389494	Queen's Park	4b9d206bf964a520e69136e3	43.663946	-79.392180	Park
165	Downtown Toronto	Garden District, Ryerson	43.657162	-79.378937	College Park Area	4c8facf91664b1f79c90aa2f	43.659453	-79.383785	Park
217	North York	Glencairn	43.709577	-79.445073	Fraserwood Park	4e8eec51f9f4680c30c6968b	43.713550	-79.442482	Park
243	East York	Woodbine Heights	43.695344	-79.318389	Stan Wadlow Park	4c012a56efa2ef3b516daa8c	43.697836	-79.314303	Park
268	Downtown Toronto	St. James Town	43.651494	-79.375418	Berczy Park	4bb79860cf2fc9b616779e02	43.648048	-79.375172	Park
278	Downtown Toronto	St. James Town	43.651494	-79.375418	St. James Park	4bb3b268eb3e9521cd82cb0a	43.650425	-79.372311	Park



# Methodology

We can visualize the 52 parks we have in Toronto:





# Methodology

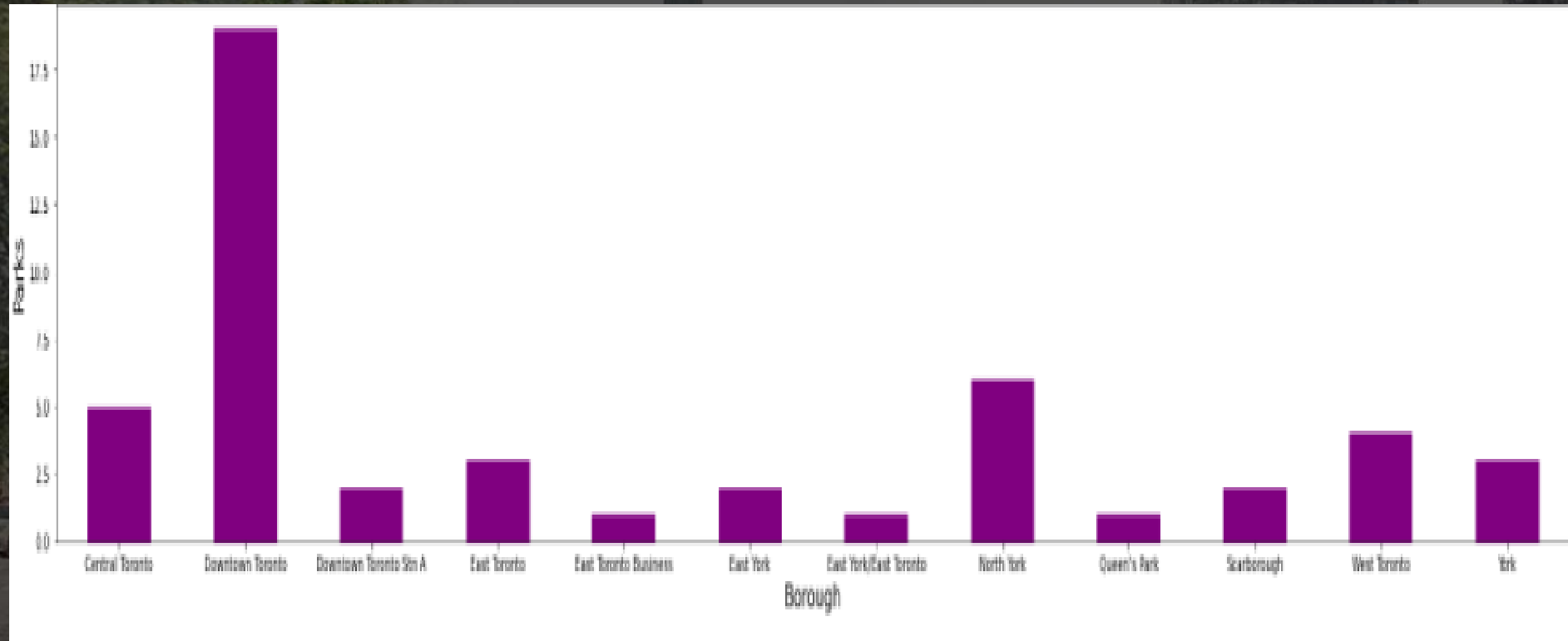
We can use Foursquare API to obtain information about each park in Toronto:

	Venue ID	Venue Likes	Venue Rating
0	4e8d9dcdd5fbbbb6b3003c7b	12	6.9
1	51ccc048498ec7792efc955e	45	8.6
2	4ddfbaca185035f3a44e8df6	29	9.0
3	4c16a548955976b0cadea4f6	16	7.9
4	4b9d206bf964a520e69136e3	172	8.6
5	4c8facf91664b1f79c90aa2f	10	8.3
6	4c012a56efa2ef3b516daa8c	5	5.9
7	4bb79860cf2fc9b616779e02	25	8.6
8	4bb3b268eb3e9521cd82cb0a	67	7.6
9	4bb79860cf2fc9b616779e02	25	8.6
10	4c8facf91664b1f79c90aa2f	10	8.3
11	4b193b23f964a520a4d923e3	43	7.1
12	4c51ca66b6dabe9a06ef5112	4	6.5
13	4b642db1f964a520b7a22ae3	83	9.1
14	4e49413e81dc766f3e3d6312	109	9.3
15	4ad4c05ef964a520bdf620e3	520	9.3
16	4baa029cf964a52085433ae3	87	8.3
17	4bb79860cf2fc9b616779e02	25	8.6



# Results

Number of Parks per Borough in Toronto:

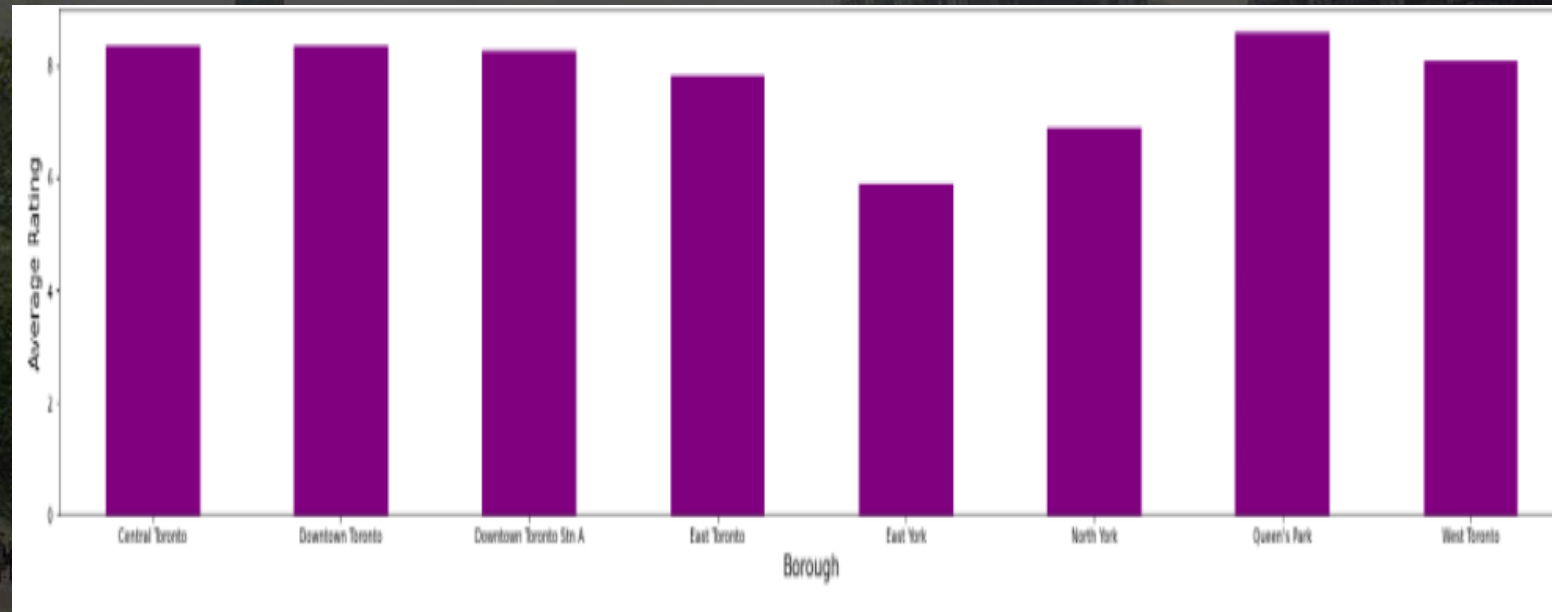




# Results

Average rating of parks per borough in Toronto:

	Borough	Average Rating
6	Queen's Park	8.600000
0	Central Toronto	8.375000
1	Downtown Toronto	8.374074
2	Downtown Toronto Stn A	8.266667
7	West Toronto	8.100000
3	East Toronto	7.850000
5	North York	6.900000
4	East York	5.900000





# Discussion

- Parks are not distributed equitable in the city of Toronto: Boroughs with large populations and a great number of neighborhoods do not benefit from a large number of parks. Furthermore, Mississauga and Etobicoke Northwest do not contain any parks.
- A great number of parks does not necessarily translate into greater visitor satisfaction.
- While boroughs such as Queen's park and Downtown Toronto perform well when it comes to visitor satisfaction, other boroughs such as North York and East York lag behind.



# Conclusion

- Valuable insights, which can be used for sound decision making, were extracted from this project.
- This project's results rely heavily on data from Foursquare, so it is by no means comprehensive.
- In future enhancement of the project, we will aim to unearth the reasons behind discrepancies in park ratings across boroughs.

